Claims

1. A perovskite titanium-containing composite oxide particle having a composition represented by general formula (I), wherein the specific surface area is about 10 to about 200 m²/g, the specific surface area diameter D_1 of primary particles defined by formula (II) is about 10 to about 100 nm, and a D_2/D_1 ratio of the average particle size D_2 of secondary particles to D_1 is about 1 to about 10:

 $M(TiO_3)$ --- (I)

(wherein M is at least one of Ca, Sr, Ba, Pb, or Mg) $D_{i}=\ 6/\ \rho\ S \ --- \ (II)$

(wherein ρ is the density of the particles, and S is the specific surface area of the particles.)

- 2. A sol in which said perovskite titaniumcontaining composite oxide particle as claimed in Claim 1 is dispersed.
- 3. A process for producing a sol in which a perovskite titanium-containing composite oxide particle represented by general formula (I) is dispersed, comprising the step of allowing a titanium oxide particle

comprising a brookite crystalline form to react with a metal salt comprising at least one of Ca, Sr, Ba, Pb, or Mg in a liquid phase:

 $M(TiO_3)$ --- (I) $= \frac{1}{2}$ (wherein M is at least one of Ca, Sr, Ba, Pb, or Mg.)

4. A process for producing a sol in which a perovskite titanium-containing composite oxide particle represented by general formula (I) is dispersed, comprising the step of allowing a titanium oxide sol prepared by subjecting a titanate to hydrolysis in an acid solution to react with a metal salt comprising at least one of Ca, Sr, Ba, Pb, or Mg in a liquid phase: M(TiO₃) --- (I)

(wherein M is at least one of Ca, Sr, Ba, Pb, or Mg.)

- 5. A sol obtained by said production process as claimed in Claim 3 or 4.
- 6. A perovskite titanium-containing composite oxide particle obtained by removing a dispersion medium from said sol as claimed in Claim 5.

- 7. The production process of said sol as claimed in Claim 3 or 4, wherein said liquid phase is alkaline.
- 8. A thin film formed from said sol as claimed in Claim 2.
- 9. A thin film formed from said sol as claimed in Claim 5.
- 10. A thin-film laminated product comprising a base and said thin film as claimed in Claim 8 which is overlaid on said base.
- 11. A thin-film laminated product comprising a base and said thin film as claimed in Claim 9 which is overlaid on said base.
- 12. The thin-film laminated product as claimed in Claim 10, wherein said base is ceramic, metal, glass, plastic, paper, wood, or concrete.
- 13. The thin-film laminated product as claimed in Claim 11, wherein said base is ceramic, metal, glass,

plastic, paper, wood, or concrete.

- 14. The perovskite titanium-containing composite oxide particle as claimed in Claim 1, wherein M $\frac{3}{2}$ represents Sr.
- 15. The thin film as claimed in Claim 8, wherein M represents $\mathrm{Sr.}$
- 16. The thin film as claimed in Claim 9, wherein M represents Sr. $\,$